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imagery analysis report

**Expansion at Nikolayev
Shipyard Northern
61 Kommuna 445, USSR (S)**



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EXPANSION AT NIKOLAYEV SHIPYARD NORTHERN 61 KOMMUNA 445, USSR (S)

SUMMARY

1. An extensive expansion program continues at Nikolayev Shipyard Northern 61 Kommuna 445 (BE [redacted]). Historically, facility expansion has either signaled increased production of existing ship classes or the construction of new classes of ships. For example, an expansion program at Severodvinsk Shipyard 402 [redacted] from 1970 to 1978 was done to support the construction of two new classes of submarines, the Typhoon nuclear-powered ballistic missile submarine and the Oscar nuclear-powered cruise missile attack submarine. The high capital investment in and duration of this program—over ten years—indicate that Nikolayev is being prepared for the construction of new classes of ships, including naval surface combatants. The classes of naval combatants to be built following completion of this expansion program are not known. While most of the information presented has been reported by NPIC, this study highlights and summarizes the major developments in this shipyard expansion program. An understanding of the nature and scope of the increased shipbuilding capabilities at this facility should aid in the analysis of future production at this shipyard. (S/WN)

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2. Major accomplishments in the program have included:

- the extension of the building ways by more than 25 percent,
- the construction of a 400-meter-long, fitting-out quay,
- the construction of a new rail system connecting the fabrication/subassembly facilities with the construction facilities, and
- the start of a new fabrication/subassembly expansion program.

Most of the expansion (Figure 1) has been completed during the last four years. (S/WN)

INTRODUCTION

3. This shipyard, on the banks of the Ingul River, is one of three major naval surface combatant and auxiliary construction shipyards in the Black Sea area. The shipyard is currently involved in the construction of a new cruiser-sized naval combatant (445G), Slava guided missile cruisers (CGs), Rajput guided missile destroyers (DDGs), El'brus submarine rescue ships (ASRs), and nonnaval Beringov Proliv bulk fish carriers. (S/WN)

4. This report is a review of the expansion program at this facility. For discussion and presentation purposes, the shipyard has been divided into three areas: the southern bank, the northern bank, and the expansion area north of the current shipyard boundary. The area south of the river contains the building ways, some fabrication buildings, and the fitting-out quays for naval combatants; the area north of the river contains the commercial fitting-out quays and most of the fabrication and shop buildings; and the area north of the current shipyard boundary contains additional fabrication facilities under construction. Because the terrain limits the area suitable for expansion to the south, most of the expansion is on the north side of the Ingul River. (S/WN)

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5. The southern portion of the shipyard contains most of the administration/support area, three building ways (one open and two lattice covered), a fabrication/assembly complex, and approximately 645 meters of fitting-out quayage. Expansion in this area includes the extension of the open building ways, construction of a heating plant, rerouting of a highway, and initial construction for a new rail bridge. (S/WN)

6. The open building ways was extended by approximately 65 meters to 301 meters. In addition, the adjoining quay had been extended the full length of the building ways (Figure 2) by October 1975. This building ways has been used for construction of Slava CGs, Rajput DDGs, and El'brus ASRs. The building ways extension enables construction of larger ships and the quay extension provides additional staging/platen area. (S/WN)

7. A new heating plant was constructed between August 1978 and July 1981. Planned facility expansion probably necessitated the increased heating capacity that this plant provides. (S/WN)

8. The rerouting of a major highway on the west side of the shipyard was begun in 1974 and was completed in 1982 (Figure 1). A drawbridge, which provides easier passage for ships departing and arriving at the shipyard, replaced a floating bridge as part of the rerouting. The floating bridge has not been in general use since the completion of the drawbridge. No additional construction has been identified in the area between the old and new highway. (S/WN)

9. By March 1983, initial construction was in progress for a new rail bridge that will connect the shipyard facilities north of the river with those

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south of the river. One rail line of limited capacity, in the middle of a road bridge (Figure 3) on the east side of the shipyard, connects the north and south areas of the shipyard. Currently, ship components are staged on the banks of the river and floating cranes are used to transfer them across the river. The expansion on the north side of the river probably requires the construction of the new rail line, which will significantly improve the flow of materials from the north to the south side of the shipyard. Construction of the rail bridge began with the construction of two bridge abutments and three concrete piers (Figure 3). Two bridge trusses, which completed the southern half of the bridge, were fabricated at the shipyard and had been positioned on the concrete bridge piers by [redacted] Two

additional bridge trusses have been fabricated at the shipyard and were being positioned on the bridge piers on [redacted] (S/WN)

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Northern Bank

10. The northern portion of the shipyard contains fabrication buildings, shop buildings, storage areas, and a fitting-out quay approximately 300 meters long. Numerous facilities, including machine shops, fabrication/subassembly buildings, a civil defense shelter, additions/annexes, a new fitting-out quay; and several rail spurs have been added to this area. (S/WN)

11. Between November 1974 and February

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1975, construction began on a two-bay machine shop (Figure 4). The building is [REDACTED] meters with an administration wing and was externally complete by June 1975. Construction began on a support building with an annex and a buried circular tank north of the building (Figure 4) between October 1976 and March 1977. These buildings provide increased shop support for both military and civilian construction programs. (S/WN)

Southern Bank

12. Initial construction on a rail-served, four-bay fabrication/subassembly building with a four-story administration/engineering annex (Figure 5) began in May 1975 with the construction of footings; however, no additional construction was observed until 1982. The building, externally complete in June 1984, is [REDACTED]. It is rail connected to the northern and southern areas of the shipyard in order to transport components/hull sections to the building ways. (S/WN)

13. Construction of a mounded civil defense shelter with a [REDACTED] vehicle ramp on the west side and two personnel ramps on the east side was begun in November 1975. The shelter had been completed by February 1978. Construction of the support building atop the shelter (Figure 5) was complete in January 1979. (S/WN)

14. A two-story annex was added to an existing shop/support building between December 1978 and September 1979, and two additions were added to an existing support building between June 1979 and May 1981 (Figure 5). A [REDACTED] addition to a vehicle storage park/motor pool area had been completed by July 1983 (Figure 4). (S/WN)

15. Construction was begun on a new 400-meter-long, fitting-out quay (Figure 4) in August 1978 and was completed in June 1984. A rail spur extending the full length of the new fitting-out quay was constructed during the same period, and new heavy-lift jib cranes were being assembled at the fitting-out quay. It is not possible to determine whether this new quay will be used for the fitting out of military or civilian ships. In the past, most of

the military fitting out has been completed on the south side of the river and the civilian fitting out has been completed on the north side of the river. Increased construction capabilities and overcrowding at the south fitting-out quay could change that pattern. Additionally, increased quayage would facilitate more alongside fitting out, a more efficient fitting-out procedure than the mediterranean-moored (stern to quay) fitting out currently used because of space limitations. (S/WN)

Expansion Area

16. Construction in the northeast portion of the shipyard (Figure 6) is outside the original boundary but is part of the continuing expansion program. An athletic stadium was razed in April 1982 for construction of a six-bay fabrication/subassembly building with an engineering bay and an administration annex. The engineering bay of this building, which is between the fabrication/subassembly ways, is [REDACTED]. The administration annex is [REDACTED]. The building, when complete, will cover an area of approximately 7 acres. Additionally, 14 of the original 36 buildings in a housing area to the west of the stadium have been razed or were in the process of being razed. The area being cleared represents at least 17 acres for additional shipyard expansion. (S/WN)

Analyst's Comments

17. The classes of ships to be constructed at this yard following the completion of the expansion program can only be estimated at this time. At least one of the building ways will be dedicated to the construction of a new class of cruiser-sized ship destined for the Soviet navy. The new fabrication/subassembly areas could be for the construction of ships using modular components. Construction of ships using modular components could shorten the time that ships are on the building ways. This ship construction might explain why no additional building ways were added during the expansion program although there is room for new building ways on the north side of the river. (S/WN)

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REFERENCES

IMAGERY

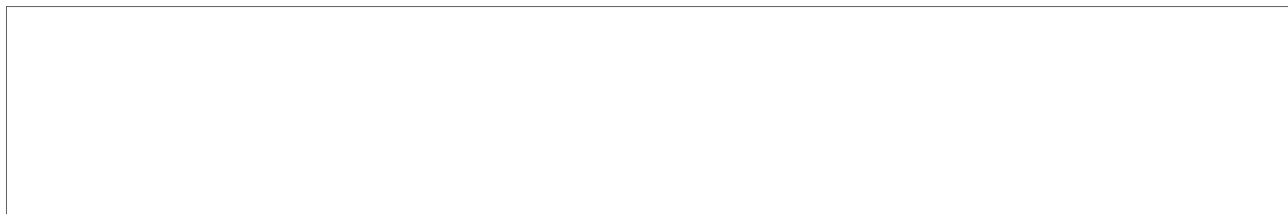
All applicable imagery acquired from [redacted] was used in the preparation of this report. (S/WN)

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Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Air, Naval, Nuclear Division, Imagery Exploitation Group, NPIC, [redacted]

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